**GRADE 7 MATH PACING CALENDAR**

**Teacher: Ram Buenaventura**

**Grading Policy:**

60% Quizzes / Tests / Projects

20% Homework

20% Classwork

**ASSESSMENT PERIOD 1 (September – November)**

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| **Domain** | **Cluster** | **CC Standard** | **CC Standard Language** | **Aspect(s) of Rigor** | **Parts of the Standard** |
| The Number System | 7.NS.A    Major  Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. | 7.NS.A.1a | Describe situations in which opposite quantities combine to make 0. For example, a hydrogen atom has 0 charge because its two constituents are oppositely charged. | Conceptual, Application | Identify situations in which opposite quantities combine to make 0 |
| Describe a situation in which opposite quantities combine to make 0 |
| 7.NS.A.1b | Understand p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative. Show that a number and its opposite have a sum of 0 (are additive inverses). Interpret sums of rational numbers by describing real-world contexts. | Conceptual, Application | Interpret p + q as the number located a distance |q| from p, in the positive or negative direction depending on whether q is positive or negative |
| Show that a number and its opposite are additive inverses |
| Interpret sums of rational numbers (fractions, decimals, and integers) by describing them with real-world contexts |
| 7.NS.A.1c | Understand subtraction of rational numbers as adding the additive inverse, p - q = p + (-q). Show that the distance between two rational numbers on the number line is the absolute value of their difference, and apply this principle in real-world contexts. | Conceptual, Application | Understand p - q is equivalent to p + (-q) |
| Show that the distance between two rational numbers (fractions, decimals, and integers) on the number line is the absolute value of their difference |
| Apply the understanding that the distance between two rational numbers (fractions, decimals, and integers) on the number line is the absolute value of their difference in real-world contexts |
| 7.NS.A.1d | Apply properties of operations as strategies to add and subtract rational numbers. | Conceptual, Procedural | Use properties of operations to add fractions, decimals, and integers |

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| Ratios & Proportional Relationships | 7.RP.A    Major  Analyze proportional relationships and use them to solve real-world and mathematical problems. | 7.RP.A.1 | Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1/2 mile in each 1/4 hour, compute the unit rate as the complex fraction (1/2)/(1/4) miles per hour, equivalently 2 miles per hour. | Procedural, Application | Compute unit rates associated with ratios of fractions |
| Compute unit rates associated with ratios of fractions including quantities measured in like units |
| Compute unit rates associated with ratios of fractions including quantities measured in different units |
| Compute the unit rate as a complex fraction and the equivalent rational number |
| 7.RP.A.2a | Decide whether two quantities are in a proportional relationship, e.g., by testing for equivalent ratios in a table or graphing on a coordinate plane and observing whether the graph is a straight line through the origin. | Conceptual | Test quantities in a table to determine if two quantities are in a proportional relationship; check for a constant multiple between measures of the two quantities when given a table |
| Graph points to determine if two quantities are in a proportional relationship |
| Recognize that a straight line through the origin represents a proportional relationship |
| 7.RP.A.2b | Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. | Conceptual, Procedural, Application | Identify the constant of proportionality (unit rate) in tables of proportional relationships |
| Identify the constant of proportionality (unit rate) in graphs of proportional relationships |
| Identify the constant of proportionality (unit rate) in diagrams of proportional relationships |
| Identify the constant of proportionality (unit rate) in verbal descriptions |
| Know what constant of proportionality is |
| 7.RP.A.2c | Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t = pn. | Conceptual, Procedural, Application | Represent proportional relationships in graphs, tables and verbal description by equations |
| 7.RP.A.2d | Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. | Conceptual | Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation |
| Explain what a point (0, 0) on the graph of a proportional relationship means in terms of the situation |
| Explain what a point (1, r), where r is the unit rate, on the graph of a proportional relationship means in terms of the situation |

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| Geometry | 7.G.A  Additional  Draw construct, and describe geometrical figures and describe the relationships between them. | 7.G.A.1 | Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. | Procedural, Application | Compute actual lengths from a scale drawing (using proportional reasoning) |
| Compute actual areas from a scale drawing (using proportional reasoning) |
| Reproduce a scale drawing at a different scale (using proportional reasoning) |
| Solve multi-step problems involving scale drawings of geometric figures (using proportional reasoning) |

**ASSESSMENT PERIOD 2 (December-February)**

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| **Domain** | **Cluster** | **CC Standard** | **CC Standard Language** | **Aspect(s) of Rigor** | **Parts of the Standard** |
| Expressions & Equations | 7.EE.A  Major  Use properties of operations to generate equivalent expressions. | 7.EE.A.1 | Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. | Conceptual, Procedural | Use the additive inverse to simplify a subtraction expression |
| Use multiplication by the reciprocal to simplify a division expression |
| Generate equivalent expressions by rearranging expressions |
| Use the distributive property to expand and factor expressions |
| Collect like terms |

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| The Number System | 7.NS.A    Major  Apply and extend previous understandings of operations with fractions to add, subtract, multiply, and divide rational numbers. | 7.NS.A.2a | Understand that multiplication is extended from fractions to rational numbers by requiring that operations continue to satisfy the properties of operations, particularly the distributive property, leading to products such as (-1)(-1) = 1 and the rules for multiplying signed numbers. Interpret products of rational numbers by describing real-world contexts. | Conceptual, Application | Understand multiplication of rational numbers as satisfying properties of operations |
| Understand the rules for multiplying signed numbers |
| Interpret products of rational numbers by describing them with real-world contexts |
| 7.NS.A.2b | Understand that integers can be divided, provided that the divisor is not zero, and every quotient of integers (with non- zero divisor) is a rational number. If p and q are integers, then -(p/q) = (-p)/q = p/(-q). Interpret quotients of rational numbers by describing real-world contexts. | Conceptual, Application | Understand the quotient of integers with non-zero divisors as rational numbers |
| Understand the rules for dividing signed numbers |
| Recognize equivalent fractions in the form -(p)/q, (-p)/q, and p/(-q) |
| Interpret quotients of rational numbers by describing them with real-world contexts |
| 7.NS.A.2c | Apply properties of operations as strategies to multiply and divide rational numbers. | Conceptual, Procedural | Apply properties of operations as strategies to multiply rational numbers |
| Apply properties of operations as strategies to divide rational numbers |
| 7.NS.A.2d | Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. | Conceptual, Procedural | Convert a rational number to a decimal using long division |
| Identify instances in which the decimal form of a rational number terminates in 0 |
| Identify instances in which the decimal form of a rational number eventually repeats |
| 7.NS.A.3 | Solve real-world and mathematical problems involving the four operations with rational numbers. (7.NS.A.3 footnote: Computations with rational numbers extend the rules for manipulating fractions to complex fractions.) | Procedural, Application | Solve mathematical problems with rational numbers, using the 4 operations |
| Solve real-world problems with rational numbers, using the 4 operations |

**ASSESSMENT PERIOD 3 (March-May)**

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| **Domain** | **Cluster** | **CC Standard** | **CC Standard Language** | **Aspect(s) of Rigor** | **Parts of the Standard** |
| Expressions & Equations | 7.EE.A    Major  Use properties of operations to generate equivalent expressions. | 7.EE.A.2 | Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, a + 0.05a = 1.05a means that "increase by 5%" is the same as "multiply by 1.05." | Conceptual | Rewrite an expression in different forms in a problem context |
| Understand how quantities in an expression are related |
| Understand rewriting an expression in a problem context can shed light on the problem |
| Use the identity properties and the existence of additive inverses to efficiently write equivalent expressions in standard form |

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| **7th Grade Common Core Math Standards Guide** | | | | | |
| **Domain** | **Cluster** | **CC Standard** | **CC Standard Language** | **Aspect(s) of Rigor** | **Parts of the Standard** |
| Expressions & Equations | 7.EE.A    Major  Use properties of operations to generate equivalent expressions. | 7.EE.B.3 | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations as strategies to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. | Procedural, Application | Solve multi-step real-life problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) |
| 7.EE.B    Major  Solve real-life and mathematical problems using numerical and algebraic expressions and equations. |
| Solve mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), including problems involving substitution for a variable |
| Apply properties of operations as strategies to calculate with numbers in any form |
| Convert between forms (whole numbers, fractions, and decimals) as appropriate |
| Assess the reasonableness of answers using mental computation and estimation strategies |
| 7.EE.B.4a | Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? | Conceptual, Procedural, Application | Write multi-step equations to represent real-world problems, using rational numbers |
| Apply the properties of equality to isolate the variable in these equations |
| Solve equations of the forms px + q = r and p(x + q) = r fluently |
| Compare an algebraic solution to an arithmetic solution; identify the sequence of the operations used in an algebraic solution and an arithmetic solution |
| 7.EE.B.4b | Solve word problems leading to inequalities of the form px + q>rorpx+q<r,wherep,q,andrarespecificrational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example, As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions. | Conceptual, Procedural, Application | Write multi-step inequalities to represent real-world problems, using rational numbers |
| Apply the properties of equality to isolate the variable in these inequalities |
| Graph the solution set of an inequality |
| Interpret the solution set of an inequality in the context of the problem |
| Solve inequalities in the form px + q > r or px + q < r (including inequalities using > and <) |

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| Domain | Cluster | CC Standard | CC Standard Language | Aspect(s) of Rigor | Parts of the Standard |
| Ratios & Proportional Relationships | 7.RP.A    Major  Analyze proportional relationships and use them to solve real-world and mathematical problems. | 7.RP.A.3 | Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. | Application | Use proportional relationships to solve multi-step ratio problems |
| Use proportional relationships to solve multi-step percent problems |
| Solve multi-step simple interest problems |
| Solve multi-step tax problems |
| Solve multi-step markup and markdown problems |
| Solve multi-step gratuities and commissions problems |
| Solve multi-step fee problems |
| Solve multi-step percent increase and decrease problems |
| Solve multi-step percent error problems |

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| Statistics & Probability | 7.SP.C    Supporting  Investigate chance processes and develop, use, and evaluate probability models. | 7.SP.C.5 | Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1/2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. | Conceptual | Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring |
| Understand larger numbers indicate greater likelihood of an event occurring |
| Understand that a probability near 0 indicates an unlikely event |
| Understand that a probability around 1/2 indicates an event that is neither unlikely nor likely |
| Understand that a probability near 1 indicates a likely event |
| 7.SP.C.6 | Approximate the probability of a chance event by collecting data on the chance process that produces it and observing its long-run relative frequency, and predict the approximate relative frequency given the probability. For example, when rolling a number cube 600 times, predict that a 3 or 6 would be rolled roughly 200 times, but probably not exactly 200 times. | Conceptual, Application | Collect data on the chance process that produces a chance event and observe the chance event’s long-run relative frequency. Use it to approximate the probability of a chance event |
| Predict the approximate relative frequency given the probability |
| Understand that the more data collected on the outcomes from a chance experiment, the closer the estimates of the probabilities are likely to be the actual probabilities |
| 7.SP.C.7a | Develop a uniform probability model by assigning equal probability to all outcomes, and use the model to determine probabilities of events. For example, if a student is selected at random from a class, find the probability that Jane will be selected and the probability that a girl will be selected. | Application | Develop a uniform probability model where all outcomes have equal probability |
| Use a uniform probability model to find the probability of simple events |
| 7.SP.C.7b | Develop a probability model (which may not be uniform) by observing frequencies in data generated from a chance process. For example, find the approximate probability that a spinning penny will land heads up or that a tossed paper cup will land open-end down. Do the outcomes for the spinning penny appear to be equally likely based on the observed frequencies? | Application | Find probability of simple events where all outcomes are not equal |
| Find the approximate probability (using observed frequencies) for outcomes that are not uniform |
| Develop a probability model based on observed frequencies |
| 7.SP.C.8a | Understand that, just as with simple events, the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs. | Conceptual | Understand that the probability of a compound event is the fraction of outcomes in the sample space for which the compound event occurs |
| 7.SP.C.8b | Represent sample spaces for compound events using methods such as organized lists, tables and tree diagrams. For an event described in everyday language (e.g., "rolling double sixes"), identify the outcomes in the sample space which compose the event. | Conceptual, Application | Represent sample spaces for compound events using lists, tables and tree diagrams |
| Identify the outcomes in the sample space which compose the event |
| 7.SP.C.8c | Design and use a simulation to generate frequencies for compound events. For example, use random digits as a simulation tool to approximate the answer to the question: If 40% of donors have type A blood, what is the probability that it will take at least 4 donors to find one with type A blood? | Application | Design and use a simulation to generate frequencies for compound events |

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| 7.G.B : 7.G.B.4  Additional  Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. | Know the formulas for the area and circumference of a  circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. | Conceptual, Procedural, Application | Know the relationship between radius and diameter |
| Know the formula for the area and use it to solve problems |
| Know the formulas for the circumference of a circle and use it to solve problems |
| Give an informal derivation of the relationship between the circumference and area of a circle |

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| Number System  7.NS.A.3 | Solve real-world and mathematical problems involving the four operations with rational numbers. (7.NS.A.3 footnote: Computations with rational numbers extend the rules for manipulating fractions to complex fractions.) | Procedural, Application | Solve mathematical problems with rational numbers, using the 4 operations |
| Solve real-world problems with rational numbers, using the 4 operations |

ASSESSMENT PERIOD 4 (June)

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| Statistics & Probability | 7.SP.A    Supporting  Use random sampling to draw inferences about a population. | 7.SP.A.1 | Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. | Conceptual | Understand that statistics can be used to gain information about a population by examining a sample of the population |
| Understand that generalizations about a population from a sample are valid only if the sample is representative of that population |
| Understand that random sampling tends to produce representative samples |
| Understand that random sampling tends to support valid inferences |
| Understand that the size of a sample influences how representative a sample is |
| 7.SP.A.2 | Use data from a random sample to draw inferences about a population with an unknown characteristic of interest. Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions. For example, estimate the mean word length in a book by randomly sampling words from the book; predict the winner of a school election based on randomly sampled survey data. Gauge how far off the estimate or prediction might be. | Conceptual, Application | Use data from a random sample to draw inferences about a population with an unknown characteristic of interest |
| Understand that a sample proportion is the best estimate of the population proportion, but not the same, and that different sample will give a slightly different sample |
| Generate multiple samples (or simulated samples) of the same size to gauge the variation in estimates or predictions |
| Understand that the variability in samples can be studied by means of simulation |

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| Geometry | 7.G.A  o  Additional  Draw construct, and describe geometrical figures and describe the relationships between them. | 7.G.A.2 | Draw (freehand, with ruler and protractor, and with technology) geometric shapes with given conditions. Focus on constructing triangles from three measures of angles or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle. | Conceptual, Procedural | Draw geometric shapes with given conditions (side lengths, angle measures, radius/diameter) |
| Know and understand conditions that determine a unique triangle, more than one triangle, or no triangle |
| Understand corresponding sides and angles to determine if triangles are identical or not |
| Construct triangles from three measures of angles or sides (may including using a compass) |
| 7.G.A.3 | Describe the two-dimensional figures that result from slicing three-dimensional figures, as in plane sections of right rectangular prisms and right rectangular pyramids. | Conceptual | Describe and identify the two-dimensional figures that result from slicing a right rectangular prism by a plane perpendicular to one of the faces |
| Describe and identify the two-dimensional figures that result from slicing a right rectangular pyramid by a plane perpendicular to the base or a plane parallel to the base |
| Describe and identify the two-dimensional figures that result from slicing a right rectangular prism or pyramid by a plane that is not parallel or perpendicular to a base |

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| Geometry  7.G.B  Additional  Solve real-life and mathematical problems involving angle measure, area, surface area, and volume. | 7.G.B.5 | Use facts about supplementary, complementary, vertical, and adjacent angles in a multi-step problem to write and solve simple equations for an unknown angle in a figure. | Conceptual, Procedural | Know facts about and identify supplementary, complementary, vertical, and adjacent angles |
| Write and solve simple equations for an unknown angle in a figure |
| Write and solve multi-step problems to find an unknown angle in a figure |
| 7.G.B.6 | Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms. | Procedural, Application | Determine the area of two-dimensional figures composed of triangles, quadrilaterals, and polygons in real-world and mathematical problems using composition and decomposition |
| Determine the volume of three-dimensional objects composed of cubes and right prisms in real- world and mathematical problems using composition and decomposition |
| Determine the surface area of three-dimensional figures in real-world and mathematical problems |

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| Statistics & Probability | 7.SP.B  o  Additional  Draw informal comparative inferences about two populations. | 7.SP.B.3 | Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the difference between the centers by expressing it as a multiple of a measure of variability. For example, the mean height of players on the basketball team is 10 cm greater than the mean height of players on the soccer team, about twice the variability (mean absolute deviation) on either team; on a dot plot, the separation between the two distributions of heights is noticeable. | Conceptual, Application | Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities |
| Measure the difference between the centers of two numerical data distributions by expressing it as a multiple of a measure of variability |
| Interpret the mean absolute deviation (MAD) of a set of data |
| Understand how to examine variability to infer about differences between the centers of two numerical data distributions |
| 7.SP.B.4 | Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth-grade science book. | Conceptual, Application | Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations |
| Interpret the mean absolute deviation (MAD) of a set of data |
| Know that making informed decisions based on sample statistics requires some knowledge of the amount of variation to expect |

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| Expressions & Equations | 7.EE.A    Major  Use properties of operations to generate equivalent expressions. | 7.EE.A.1 | Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational coefficients. | Conceptual, Procedural | Use the additive inverse to simplify a subtraction expression |
| Use multiplication by the reciprocal to simplify a division expression |
| Generate equivalent expressions by rearranging expressions |
| Use the distributive property to expand and factor expressions |
| Collect like terms |

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| Expressions & Equations | 7.EE.B    Major  Solve real-life and mathematical problems using numerical and algebraic expressions and equations. | 7.EE.B.3 | Solve multi-step real-life and mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), using tools strategically. Apply properties of operations as strategies to calculate with numbers in any form; convert between forms as appropriate; and assess the reasonableness of answers using mental computation and estimation strategies. For example: If a woman making $25 an hour gets a 10% raise, she will make an additional 1/10 of her salary an hour, or $2.50, for a new salary of $27.50. If you want to place a towel bar 9 3/4 inches long in the center of a door that is 27 1/2 inches wide, you will need to place the bar about 9 inches from each edge; this estimate can be used as a check on the exact computation. | Procedural, Application | Solve multi-step real-life problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals) |
| Solve mathematical problems posed with positive and negative rational numbers in any form (whole numbers, fractions, and decimals), including problems involving substitution for a variable |
| Apply properties of operations as strategies to calculate with numbers in any form |
| Convert between forms (whole numbers, fractions, and decimals) as appropriate |
| Assess the reasonableness of answers using mental computation and estimation strategies |
| 7.EE.B.4a | Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic solution, identifying the sequence of the operations used in each approach. For example, The perimeter of a rectangle is 54 cm. Its length is 6 cm. What is its width? | Conceptual, Procedural, Application | Write multi-step equations to represent real-world problems, using rational numbers |
| Apply the properties of equality to isolate the variable in these equations |
| Solve equations of the forms px + q = r and p(x + q) = r fluently |
| Compare an algebraic solution to an arithmetic solution; identify the sequence of the operations used in an algebraic solution and an arithmetic solution |
| 7.EE.B.4b | Solve word problems leading to inequalities of the form px + q>rorpx+q<r,wherep,q,andrarespecificrational numbers. Graph the solution set of the inequality and interpret it in the context of the problem. For example, As a salesperson, you are paid $50 per week plus $3 per sale. This week you want your pay to be at least $100. Write an inequality for the number of sales you need to make, and describe the solutions. | Conceptual, Procedural, Application | Write multi-step inequalities to represent real-world problems, using rational numbers |
| Apply the properties of equality to isolate the variable in these inequalities |
| Graph the solution set of an inequality |
| Interpret the solution set of an inequality in the context of the problem |
| Solve inequalities in the form px + q > r or px + q < r (including inequalities using > and <) |

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| 7.NS.A.2c | Apply properties of operations as strategies to multiply and divide rational numbers. | Conceptual, Procedural | Apply properties of operations as strategies to multiply rational numbers |
| Apply properties of operations as strategies to divide rational numbers |

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| 7.RP.A.2b | Identify the constant of proportionality (unit rate) in tables, graphs, equations, diagrams, and verbal descriptions of proportional relationships. | Conceptual, Procedural, Application | Identify the constant of proportionality (unit rate) in tables of proportional relationships |
| Identify the constant of proportionality (unit rate) in graphs of proportional relationships |
| Identify the constant of proportionality (unit rate) in diagrams of proportional relationships |
| Identify the constant of proportionality (unit rate) in verbal descriptions |
| Know what constant of proportionality is |

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| 7.RP.A.3 | Use proportional relationships to solve multistep ratio and percent problems. Examples: simple interest, tax, markups and markdowns, gratuities and commissions, fees, percent increase and decrease, percent error. | Application | Use proportional relationships to solve multi-step ratio problems |
| Use proportional relationships to solve multi-step percent problems |
| Solve multi-step simple interest problems |
| Solve multi-step tax problems |
| Solve multi-step markup and markdown problems |
| Solve multi-step gratuities and commissions problems |
| Solve multi-step fee problems |
| Solve multi-step percent increase and decrease problems |
| Solve multi-step percent error problems |